

Weekly Report

2017.10.23-2017.10.29

1.This Week

Summarization Form

Task	Progress	Time
Waveline	System: A prior user study is done with two lab mates. Paper: Find and reason about new cases.	10.31
Power Grid New Projects	Introduce the tasks and requirements to students in Ningbo. Make plans about this project.	
Power Grid Visualization Survey	Not started yet.	

Wavelines

- 1.Fix bugs of the system (problems with the difference value computing of rotor angle data).
- 2.Perform a prior user study with a designed questionnaire with two students in our lab to test if there's problems with the questions. According to the prior results, we revised the questionnaire and the questioned samples in it.
- 3.Two new case studies are found with the help of Chen Zexian to replace the old cases.
- 4.Revise the writing structure of the system design and re-filling this part with new designs.

Power Grid New Projects

1.Went to Ningbo on Tuesday to explain the background and introduce requirements to the students there. The problem of this project can be summarized into two major parts: 1.visualize the results of power flow calculation data and 2. visualize intermediate process of power flow computing to locate problem nodes and parameters (open-box question). Plans are made as follow:

Members

- 5 students in total, 2 for backend coding and 3 for frontend coding.

Timing

- 3 students only participate in this project for 3 months, and 2 students (Gao Shengjie & Zhu Yali) will continue this project for at least half year.

Plans

Time	Plan
First Week	Read Materials. Try basic power flow computing algorithms. Try to code small frontend projects (for students not familiar with frontend coding).
First Month	Manage the original data and get what we need from the original dataset. Start with the more simple part first: power flow results visualization. And then start the more difficult part of visualizing intermediate process of power flow computing.

Third Month	Finish the power flow results visualization well. Finish the major function and designs need to be used in visualizing intermediate process of power flow computing.
Fifth Month	Finish the entire project.(From the third month to the fifth month, there will only be 2 students working on it.)

Others

1.Attend Prof. Ma's talk on Friday.

Paper Reading

1.BiDots: Visual Exploration of Weighted Biclusters

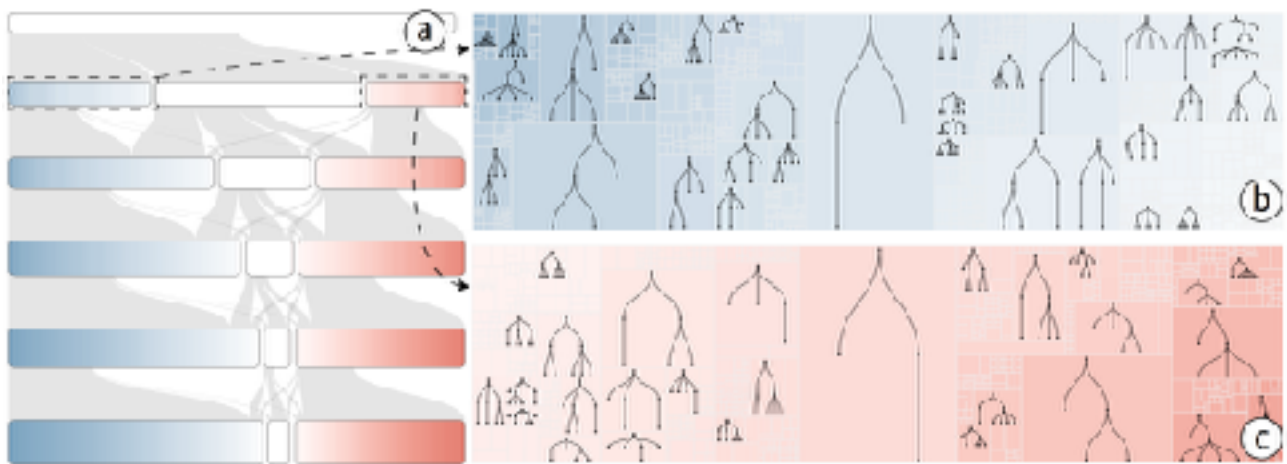
This paper proposes a visualization system to help explore the biclustering results and also pays attentions to the weighted biclusters, which has been underexploited in the literature. The main contribution of this paper is the visual design for comparing and discovering bicluster entities. Small visual glyphs are used in the paper writing to enhance the readability of the paper, which is very interesting.



Bicluster encoding. A bicluster, which consists of two sets of entities and their weighted relationships, is displayed in a row. The relationships are shown as small semi-transparent (since they may overlap) orange lines in a rectangle in the middle; and the two sets of entities are shown as gray circles with line patterns to help differentiate entities, each set on one side.

2.How Do Ancestral Traits Shape Family Trees over Generations?

This paper generates and tests empirical hypotheses for multi-generational research with iterative design study with social scientists and historians. Dynamic behaviors of family tree structures is encoded within a traditional sankey diagram and detail informations in each sankey node is encoded in the tree map. Statistical methods are also used to examine associations. The design and methods in this paper is relatively simple and the writing structures is very similar to old Prof. Qu's papers. Simple, Clean, Understandable.



2.TODO

1. Waveline system and paper writing.
2. other projects of power grid started.